

**UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE**

**ECOLOGICAL SITE DESCRIPTION**

**ECOLOGICAL SITE CHARACTERISTICS**

**Site Type:** Rangeland

**Site ID:** R036XA005NM

**Site Name:** Limy

**Precipitation or Climate Zone:** 9 to 14 inches

**Phase:**

## **PHYSIOGRAPHIC FEATURES**

### **Narrative:**

This site occurs on nearly level to gently sloping mesa lands, low hills, benches and flats. Slopes vary from 1 to 15 percent but are generally less than 8 percent. Elevation ranges from 6,900 to 8,400 feet above sea level.

### **Land Form:**

1. Alluvial flat
2. Mesa
- 3.

### **Aspect:**

1. N/A
- 2.
- 3.

	<b>Minimum</b>	<b>Maximum</b>
<b>Elevation (feet)</b>	6,900	8,400
<b>Slope (percent)</b>	1	15
<b>Water Table Depth (inches)</b>	N/A	N/A
<b>Flooding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A
<b>Ponding:</b>	<b>Minimum</b>	<b>Maximum</b>
<b>Depth (inches)</b>	N/A	N/A
<b>Frequency</b>	N/A	N/A
<b>Duration</b>	N/A	N/A

### **Runoff Class:**

Negligible to medium.

## **CLIMATIC FEATURES**

### **Narrative:**

Mean annual precipitation varies from 9 to 14 inches. Deviations of 4 inches or more are quite common. Approximately 60 percent of the precipitation is received during the native plant growth period, April through September. June is the driest month. During July, August and September 4 to 5 inches of precipitation influence the presence and production of warm-season plants. Fall and spring moisture is conducive to the growth of cool-season herbaceous plants. Maximum shrub growth also occurs during this time. Summer precipitation is characterized by brief, localized thunderstorms. Winter moisture usually occurs as snow or light rain.

Mean annual temperature varies from 64 degrees F in July to 21 degrees F in January. The maximum is near 100 degrees F. The minimum is near 40 degrees F. The average last killing frost in the spring is around mid-May. The first killing frost in the fall is late September or early October. The frost-free period is approximately 120 to 140 days, but freezing temperatures have been recorded for every month except July and August. Temperatures are generally conducive for herbaceous plant growth from April through September.

Wind velocities are relatively light most of the year with stronger winds occurring in spring and early summer. These stronger winds, which may exceed 25 miles per hour, increase transpiration rates of plants and rapidly dry the soil surface. Also, small soil particles are often displaced by the stronger winds, which can result in structural damage to native plants, particularly young seedlings.

Climate data was obtained from the WCCR web site. Using 50% probabilities for freeze-free and frost-free seasons at 28.5 degrees F and 32.5 degrees F respectively.

	<b>Minimum</b>	<b>Maximum</b>
<b>Frost-free period (days):</b>	104	119
<b>Freeze-free period (days):</b>	134	145
<b>Mean annual precipitation (inches):</b>	9	14

### **Monthly moisture (inches) and temperature (°F) distribution:**

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	.52	1.79	7.6	45.6
February	.43	1.56	10.7	50.4
March	.67	1.92	16.8	56.8
April	.52	1.26	22.7	66.0
May	.62	1.26	28.8	75.5
June	.49	1.21	35.1	85.8
July	1.54	3.41	42.1	88.9
August	1.86	3.72	41.8	85.8
September	1.08	1.86	34.6	78.8
October	1.01	1.86	25.3	68.6
November	.71	1.60	16.2	56.0
December	.56	1.49	9.3	47.0

**Climate Stations:**

		Period					
Station ID	<u>292241</u>	Location	<u>Cuba, NM</u>	From:	<u>01/01/14</u>	To:	<u>12/31/01</u>
Station ID	<u>293422</u>	Location	<u>Gallup FAA-AP, NM</u>	From:	<u>01/01/21</u>	To:	<u>12/31/01</u>

**INFLUENCING WATER FEATURES****Narrative:**

This site is not influenced by water from a wetland or stream.

**Wetland description:**

System	Subsystem	Class
N/A		

**If Riverine Wetland System enter Rosgen Stream Type:**

N/A

**REPRESENTATIVE SOIL FEATURES****Narrative:**

The soils typically are very calcareous throughout the profile. They are moderately deep to deep and are well drained. The surface and subsoil textures range from sandy loams to clay loams. The soil profile may or may not be high in coarse fragments. Permeability is moderate, available water-holding capacity is high, and runoff is low to medium.

**Parent Material Kind:** Marine deposits

**Parent Material Origin:** Mixed - calcareous

**Surface Texture:**

1. Clay loam
2. Sandy loam

**Surface Texture Modifier:**

1. Gravel
- 2.

<b>Subsurface Texture Group:</b>	Loamy
<b>Surface Fragments &lt;=3" (% Cover):</b>	15 to 35
<b>Surface Fragments &gt;3" (% Cover):</b>	N/A
<b>Subsurface Fragments &lt;=3" (%Volume):</b>	15 to 35
<b>Subsurface Fragments &gt;=3" (%Volume):</b>	N/A

<b>Drainage Class:</b>	<b>Minimum</b> Well	<b>Maximum</b> Well
<b>Permeability Class:</b>	Moderate	Moderate
<b>Depth (inches):</b>	20	60
<b>Electrical Conductivity (mmhos/cm):</b>	Unknown	Unknown
<b>Sodium Absorption Ratio:</b>	Unknown	Unknown
<b>Soil Reaction (1:1 Water):</b>	Unknown	Unknown
<b>Soil Reaction (0.1M CaCl2):</b>	Unknown	Unknown
<b>Available Water Capacity (inches):</b>	9	12
<b>Calcium Carbonate Equivalent (percent):</b>	Unknown	Unknown

## **PLANT COMMUNITIES**

### **Ecological Dynamics of the Site:**

### **Plant Communities and Transitional Pathways (diagram)**

**Plant Community Name:** Historic Climax Plant Community

**Plant Community Sequence Number:** 1 **Narrative Label:** HCPC

**Plant Community Narrative:** Historic Climax Plant Community

Winterfat dominates the community with perennial grasses well distributed throughout the site. Other shrubs, such as fourwing saltbush, are scattered throughout the site. Annual grasses and forbs are in relative abundance in spring months but generally are a minor component on the this site.

\*On very moist sites and sites with finer-textured soils, western wheatgrass would be the dominant perennial grass. On drier sites and sites with coarser-textured soils, Indian ricegrass would be the dominant perennial grass.

Canopy Cover:

Trees, shrubs and half-shrubs 40 %

Ground Cover (Average Percent of Surface Area).

Grasses & Forbs 22

Bare ground 53

Surface gravel 10

Surface cobble and stone 0

Litter (percent) 15

Litter (average depth in cm.) 1

**Plant Community Annual Production (by plant type):** \_\_\_\_\_

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	144	264	384
Forb	15	28	40
Tree/Shrub/Vine	120	220	320
Lichen			
Moss			
Microbiotic Crusts			
Total	300	550	800

**Plant Community Composition and Group Annual Production:** Plant species are grouped by annual production **not** by functional groups.

**Plant Type - Grass/Grasslike**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	PASM ACHY	Western Wheatgrass* Indian Ricegrass*	110 – 138	110 – 138
2	HECO26 HENE5	Needleandthread New Mexico Feathergrass	28 – 44	28 – 44
3	ELEL5	Bottlebrush Squirreltail	28 – 44	28 – 44
4	BOGR2 PLJA	Blue Grama Galleta	17 – 39	17 – 39
5	SPCR 2GRAM	Sand Dropseed Othergrasses	17 – 28	17 – 28

**Plant Type - Forb**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
6	ARFR4 ERIOG PLPA2 2FORBS	Fringed Sagewort Wildbuckwheat Wooly Indianwheat Other Forbs	17 – 39	17 – 39

**Plant Type – Tree/Shrub/Vine**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
7	KRLA2	Winterfat	135 – 193	135 – 193
8	ATCA2	Fourwing Saltbush	17 – 28	17 – 28
9	ERNAN5 GUSA2	Rubber Rabbitbrush Broom Snakeweed	17 – 28	17 – 28
10	YUCCA 2SD	Yucca spp. Other Shrubs	6 – 28	6 – 28

**Plant Type - Lichen**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

**Plant Type - Moss**

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production



### **Plant Type - Microbiotic Crusts**

<b>Group Number</b>	<b>Scientific Plant Symbol</b>	<b>Common Name</b>	<b>Species Annual Production</b>	<b>Group Annual Production</b>

Other species include: threeawn spp., muttongrass, prairie junegrass, spike muhly, ring muhly, sideoats grama, sixweeks fescue, false buffalograss, threadleaf groundsel, globemallow spp., aster and cactus spp.

### **Plant Growth Curves**

**Growth Curve ID**    0005NM

**Growth Curve Name:**    HCPC

**Growth Curve Description:**    Winterfat dominated community with well distributed perennial grasses.

<b>Jan.</b>	<b>Feb.</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>Aug.</b>	<b>Sept.</b>	<b>Oct.</b>	<b>Nov.</b>	<b>Dec.</b>
<b>0</b>	<b>0</b>	<b>3</b>	<b>5</b>	<b>10</b>	<b>10</b>	<b>25</b>	<b>30</b>	<b>12</b>	<b>5</b>	<b>0</b>	<b>0</b>

## **ECOLOGICAL SITE INTERPRETATIONS**

### **Animal Community:**

Habitat for Wildlife:

This site provides habitats which support a resident animal community that is characterized by pronghorn antelope, coyote, white-tailed jackrabbit, deer mouse, horned lark and prairie rattlesnake.

Typical summer resident birds include sage thrasher, vesper, sage and brewer sparrows. Antelope were absent from approximately 1910 until the early 1940's when wild captured animals were transplanted. Mule deer and elk will forage seasonally around the peripheries of this site.

Bald eagle and peregrine falcons may use this site for hunting when it is located near the Rio Grande Gorge.

### **Hydrology Functions:**

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

#### **Hydrologic Interpretations**

Soil Series	Hydrologic Group
Hernandez	B
Lubon	?
Kim	B
Travelers	?

### **Recreational Uses:**

This site has little recreational value other than for horseback riding and hunting. It has little aesthetic appeal and natural beauty.

### **Wood Products:**

This site produces no significant wood products in the potential plant community.

**Other Products:****Grazing:**

Approximately 85 percent of the vegetation produced on this site are suitable for grazing or browsing by domestic livestock and wildlife. Grazing distribution generally is not a problem if adequate waterings are provided.

Continuous grazing leads to a repetitive, selective grazing of the most desirable species which reduces their vigor and productivity. The result is a deterioration of the potential plant community. Winterfat is especially susceptible to reduced vigor as a result of continuous winter grazing. Continuous summer grazing is detrimental to the perennial grass component. A planned grazing system, which prevents the repetitive grazing of selected species and allows periodic replenishment of root carbohydrates is desirable.

**Other Information:****Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month**

Similarity Index	Ac/AUM
100 - 76	4.2 – 5.6
75 – 51	5.5 – 8.3
50 – 26	8.2 – 16.6
25 – 0	16.6+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

**Plant Preference by Animal Kind:**

**Animal Kind:** Livestock

**Animal Type:** Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Western Wheatgrass	<i>Pascopyrum smithii</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
Indian Ricegrass	<i>Achnatherum hymenoides</i>	EP	P	P	P	P	P	P	P	P	P	P	P	P
Needleandthread	<i>Hesperostipa comata</i>	EP	D	D	P	P	P	D	D	D	D	D	D	D
Fourwing Saltbush	<i>Atriplex canescens</i>	L/S	P	P	P	P	P	D	D	D	D	D	D	P
Winterfat	<i>Krascheninnikovia lanata</i>	L/S	D	D	P	P	P	P	P	P	D	D	D	D

## **SUPPORTING INFORMATION**

### **Associated sites:**

Site Name	Site ID	Site Narrative

### **Similar sites:**

Site Name	Site ID	Site Narrative

### **State Correlation:**

This site has been correlated with the following sites: \_\_\_\_\_

### **Inventory Data References:**

Data Source	# of Records	Sample Period	State	County

### **Type Locality:**

State: New Mexico

County: Taos

Latitude: \_\_\_\_\_

Longitude: \_\_\_\_\_

Township: \_\_\_\_\_

Range: \_\_\_\_\_

Section: \_\_\_\_\_

Is the type locality sensitive?    Yes ☐            No ☐

General Legal Description: \_\_\_\_\_

### **Relationship to Other Established Classifications:**

### **Other References:**

Data collection for this site was done in conjunction with the progressive soil surveys within the New Mexico and Arizona Plateaus and Mesas 36 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: McKinley & Sandoval

### **Characteristic Soils Are:**

Hernandez	Lubon
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### **Other Soils included are:**

Kim	Travelers
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### **Site Description Approval:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester		Don Sylvester	

### **Site Description Revision:**

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	08/07/02	George Chavez	09/11/02